

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-18557; Directorate Identifier 2003-NM-174-AD; Amendment 39-13926; AD 2005-01-02]

RIN 2120-AA64

Airworthiness Directives; Lockheed Model 1329 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Lockheed Model 1329 series airplanes. This AD requires repetitive inspections to detect crack damage in the front spar cap assembly of the lower vertical stabilizer; reworking the spar cap doublers if no crack damage is found during any inspection; and repairing if any crack damage is found during any inspection. This AD is prompted by reports of cracks in the front spar cap assembly of the lower vertical stabilizer at box beam station 24 on the aft side of the 25% chord line. We are issuing this AD to find and fix cracks in the front spar cap assembly of the lower vertical stabilizer, which could result in rapid crack propagation and failure of the front spar cap. Failure of the front spar cap could lead to loss of rudder control and consequent reduced controllability of the airplane.

DATES: This AD becomes effective February 9, 2005.

The incorporation by reference of certain publications listed in the AD is approved by the Director of the Federal Register as of February 9, 2005.

ADDRESSES: For service information identified in this AD, contact Lockheed Martin Aircraft & Logistics Center, 120 Orion Street, Greenville, South Carolina 29605. You can examine this information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to:
http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

You can examine the contents of this AD docket on the Internet at <http://dms.dot.gov>, or at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, on the plaza level of the Nassif Building, Washington, DC. This docket number is FAA-2004-18557; the directorate identifier for this docket is 2003-NM-174-AD.

FOR FURTHER INFORMATION CONTACT: Technical information: Carl Gray, Aerospace Engineer, Airframe Branch, ACE-117A, FAA, Atlanta Aircraft Certification Office, One Crown Center, 1895 Phoenix Boulevard, suite 450, Atlanta, Georgia 30349; telephone (770) 703-6131; fax (770) 703-6097.

Plain language information: Marcia Walters, marcia.walters@faa.gov.

Examining the Docket

The AD docket contains the proposed AD, comments, and any final disposition. You can examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with an AD for certain Lockheed Model 1329 series airplanes. That action, published in the Federal Register on July 7, 2004 (69 FR 40821), proposed to require repetitive inspections to detect crack damage in the front spar cap assembly of the lower vertical stabilizer; reworking the spar cap doublers if no crack damage is found during any inspection; and repairing if any crack damage is found during any inspection.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comment that has been submitted on the proposed AD.

Request To Withdraw Proposed AD

One commenter contends that the FAA should not classify cracking of the front spar cap assembly of the lower vertical stabilizer as a safety issue. The commenter justifies this statement by saying that we have known about the cracking for over four years, and if it is a true safety issue, we would have addressed it either many years ago, or last year when Lockheed Service Bulletin 329-302, dated July 9, 2003 (for Model 1329-23A, -23D, and -23E series airplanes); and Lockheed Service Bulletin 329II-55-4, dated July 9, 2003 (for Model 1329-25 series airplanes) were published. While the commenter does not explicitly make a request, we infer from its statements that the commenter requests to withdraw the proposed AD. The commenter also asks the following questions:

1. What analysis has been done to show that cracking will not cause a problem until 301 flight hours?
2. Have we been lucky that cracking has not caused safety issues in the last four years?
3. How could cracking possibly affect the rudder? Would the entire tail depart from the aircraft?

We do not agree with the commenter. To withdraw this action would be inappropriate, since we have determined that an unsafe condition exists and that inspections must be conducted to ensure continued safety. We have provided answers to the commenter's questions below:

1. Lockheed Martin Engineering performed damage tolerance analysis (DTA) to establish the inspection intervals for cracking. Based on this data, it has recommended inspection intervals of 300 flight hours for airplanes that have accumulated fewer than 10,000 total flight hours and 150 flight hours for airplanes that have accumulated 10,000 or more total flight hours. We agree with its analysis and the inspection intervals it recommended in Lockheed Service Bulletin 329-302; and Lockheed Service Bulletin 329II-55-4.

2. We have determined that there have not been any serious accidents related to the unsafe condition addressed in this AD because of the small number of Lockheed Model 1329 series

airplanes in the U.S. fleet and the low utilization of those airplanes. Also, some operators have already found Model 1329 series airplanes with cracking of the front spar cap assembly of the lower vertical stabilizer and have repaired those airplanes.

3. Cracks in the front spar cap assembly of the lower vertical stabilizer, if allowed to propagate, substantially reduce the structural load capability of the rudder spar. This condition could lead to spar failure. Failure of the rudder spar cap could lead to operational handling problems of the rudder, which could cause loss of control of the airplane.

Explanation of Changes Made to This AD

For clarification, we have revised the definition of a "detailed inspection" in this final rule.

We inadvertently misstated the compliance time for paragraph (g)(2) of this AD and have clarified it accordingly.

Conclusion

We have carefully reviewed the available data, including the comment that has been submitted, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

This AD affects about 85 airplanes of U.S. registry and 98 airplanes worldwide. The required actions take about 1 work hour per airplane, at an average labor rate of \$65 per work hour. No parts are required. Based on these figures, the estimated cost of the AD for U.S. operators is \$5,525, or \$65 per airplane.

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in title 49 of the United States Code. Subtitle I, section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this AD.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2005-01-02 Lockheed: Amendment 39-13926. Docket No. FAA-2004-18557; Directorate Identifier 2003-NM-174-AD.

Effective Date

- (a) This AD becomes effective February 9, 2005.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to Lockheed Model 1329-23A, -23D, and -23E series airplanes, serial numbers 5001 through 5162 inclusive, and Lockheed Model 1329-25 series airplanes, serial numbers 5201 through 5240 inclusive; certificated in any category.

Unsafe Condition

- (d) This AD was prompted by reports of cracks in the front spar cap assembly of the lower vertical stabilizer at box beam station 24 on the aft side of the 25% chord line. We are issuing this AD to find and fix cracks in the front spar cap assembly of the lower vertical stabilizer, which could result in rapid crack propagation and failure of the front spar cap, leading to loss of rudder control and consequent reduced controllability of the airplane.

Compliance

- (e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Service Bulletin References

- (f) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of the following service bulletins, as applicable:

- (1) For Model 1329-23A, -23D, and -23E series airplanes: Lockheed Service Bulletin 329-302, dated July 9, 2003; and
- (2) For Model 1329-25 series airplanes: Lockheed Service Bulletin 329II-55-4, dated July 9, 2003.

Initial and Repetitive Inspections

(g) Do a detailed inspection to detect any crack damage in the left and right radius detail of the spar cap doublers, at the applicable time specified in paragraph (g)(1) or (g)(2) of this AD, in accordance with the service bulletin.

Note 1: For the purposes of this AD, a detailed inspection is defined as: "An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required."

(1) For airplanes that have accumulated 10,000 or more total flight hours as of the effective date of this AD: Inspect within 150 flight hours after the effective date of this AD. Repeat the detailed inspection thereafter at intervals not to exceed 150 flight hours.

(2) For airplanes that have accumulated fewer than 10,000 total flight hours as of the effective date of this AD: Inspect within 300 flight hours after the effective date of this AD. Repeat the detailed inspection thereafter at intervals not to exceed 300 flight hours. At the time the airplane has accumulated 10,000 or more total flight hours, repeat the detailed inspection thereafter at intervals not to exceed 150 flight hours.

No Damage Detected

(h) If no crack damage is found during any inspection required by paragraph (g) of this AD, before further flight, rework the spar cap doublers by performing the actions in paragraphs (h)(1) and (h)(2) of this AD, in accordance with the service bulletin.

(1) Remove all burrs, sharp edges, and extraneous tool marks by smoothing the radius to an RMS 125 finish.

(2) Touch up finish to prevent corrosion.

Damage Detected: Corrective Action

(i) If any crack damage is found during any inspection required by paragraph (g) of this AD, and the service bulletin specifies to contact Lockheed Martin Technical Support Center for repair instructions: Before further flight, repair in accordance with a method approved by the Manager, Atlanta Aircraft Certification Office (ACO), FAA. For a repair method to be approved by the Manager, Atlanta ACO, as required by this paragraph, the Manager's approval letter must specifically refer to this AD.

Parts Installation

(j) As of the effective date of this AD, no person shall install a spar cap doubler, part number (P/N) JE15-2 L/R or P/N JE15-15 L/R, on any airplane unless it has been reworked as required by paragraph (h) of this AD.

Reporting Requirement

(k) Submit a report of the findings (both positive and negative) of any inspection required by paragraph (g)(1) or (g)(2) of this AD to the Manager, Atlanta ACO, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Boulevard, suite 450, Atlanta, Georgia 30349; fax (770) 703-6097; at the applicable time specified in paragraph (k)(1) or (k)(2) of this AD. (The report

must include the inspection results, a description of any discrepancy found (e.g., crack length and location), the airplane serial number, and the number of landings and flight hours on the airplane.) Information collection requirements contained in this AD have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

(1) For airplanes on which any inspection required by paragraph (g) of this AD is accomplished after the effective date of this AD: Submit the report within 30 days after performing those inspections.

(2) For airplanes on which any inspection required by paragraph (g) of this AD has been accomplished before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

Previously Accomplished Initial Inspections

(l) Initial inspections accomplished within 12 months prior to the effective date of this AD in accordance with the service bulletin are considered acceptable for compliance with the applicable actions specified in paragraph (g) of this AD.

Alternative Methods of Compliance (AMOCs)

(m) The Manager, Atlanta ACO, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

Material Incorporated by Reference

(n) You must use Lockheed Service Bulletin 329-302, dated July 9, 2003; or Lockheed Service Bulletin 329II-55-4, dated July 9, 2003; as applicable; to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approves the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. For copies of the service information, contact Lockheed Martin Aircraft & Logistics Center, 120 Orion Street, Greenville, South Carolina 29605. For information on the availability of this material at the National Archives and Records Administration (NARA), call (202) 741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

You may view the AD docket at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Room PL-401, Nassif Building, Washington, DC.

Issued in Renton, Washington, on December 27, 2004.

Kevin M. Mullin,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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